Cane River Creole

National Park Service
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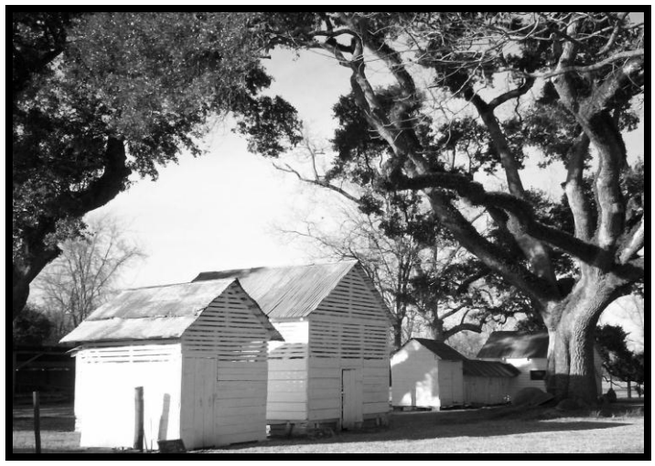
National Historical Park
Louisiana

Limewash



Before and After

These pictures show buildings at Oakland Plantation before and after the limewash process. Historically, plantation buildings were limewashed semi-annually to preserve the wood.

Some Old Practices Still Good Ones

Do you remember whitewashing fences when you were a kid? Most of us over forty do, even if no one ever played the “Tom Sawyer” trick on us. We called it whitewash – the cheap stuff came from whiting or chalk, but the stuff that stayed on was really limewash made of lime.

But did you know that limewash is a fire retardant, antiseptic, antifungal, odorless and non-allergic paint? It’s capable of running off bugs, eliminating mosquito larvae, and reduces odors where animals are kept. When you paint roofs with it, lime ash reduces inside temperatures up to 10 degrees (chicken farmers used it before electric fans). It also sweetens the soil around a building, brightens up the surroundings and looks great because it glows due to innumerable small crystals. It can be painted by relatively unskilled workers and is inexpensively made at home with products you might have around the house. You can limewash on iron or other metals and it won’t rust. Painted on tree trunks, limewash prevents disease, sunburn or frost injury. Unlike commercial paint that must be sanded, scraped or stripped to remove, limewash can be taken off with soap, water, and brush.

If your buildings are not painted, limewash can slow deterioration of wood and brick due to weather and allow rainwater to smoothly run down the outside walls without soaking in. It helps buildings “breathe” by allowing trapped moisture to pass out of the building, reducing mildew and rotting of structural timbers.

Sounds great, you say? So why did people quit using limewash? Not because it was expensive – there’s still only about $1.50 worth of hydrated lime in a gallon. However, limewashing outside surfaces where there was no overhang or porch every year was labor intensive and messy; there were so many recipes to choose from, and so many opinions as to which one was best. Limewash failure shows up immediately in the form of scaling and chalky surfaces. So when Sherwin Williams came out with factory-made paints in the 1890s, mostly blended from the same ingredients people used in homemade limewashes including lime, milk solids, linseed oil and rosin, folks bought them because they were convenient and fairly foolproof.

Made From Local Ingredients

Most limewash ingredients were readily available on the farm. During the colonial period, people got their lime from local deposits in Winn and Bienville parishes where limestone occurred naturally as cap rock protecting the salt domes from the environment. Also, lime could be burned from local shell deposits left behind when this area was covered by ocean. When limestone is burned, it drives out the water creating calcium oxide; when water is mixed with it, calcium hydroxide is produced which becomes limestone again when it dries. By the early 1900s, when lighting for homes was produced by acetylene gas plants, the fortunate by-product was pure lime usable to prepare limewash. The lime was stored in water to keep it from carbonating (crystallizing into limestone) before it could be used.

Other ingredients were known by trial and error to bond limewash together and make it more waterproof, including molasses, milk solids (casein), oils, pine rosin and tallow. In our area, molasses and table salt were often used. Salt was often added to exterior limewash to make it more durable and dry slower, producing a better finish. Salt probably came from local salt works.

Colored Limewash

Limewash could also be colored if the opaque white lime color was not desirable. Many people used laundry bluing to make the finish look whiter, but other colors could also be added that were readily available. Pretty colored dirt, called earth pigments, could be collected locally and washed several times to separate the fine iron oxide particles from the sand and silt. As early as the 1790s, customers could also buy Spanish Brown and other European pigment colors from local merchants. Limewash colors by necessity must be non- reactive with lime, insoluble in water, and strong enough to show up. Blacks, yellow, reds and browns were made from cobalt or copper; and greens were from chrome oxide.

Try It Yourself

All over the world, limewash is traditionally renewed in the spring or fall when the weather is wetter, sunshine is not too bright or hot, and winds are calm. The limewash needs to dry slowly so it lasts longer. It takes moisture and carbon dioxide to create the lime crystals that hold the paint together.

If you have an unpainted and unsealed brick foundation, wall, or wood fence, and you'd like to try limewashing, here are some recipes and hints to aid in the success of your project. All washes should be applied out of hot sunlight, wind or very dry weather (fall and spring are still best).

Unsealed porous brick is the easiest and most enduring type of surface to limewash since the lime crystals can mechanically bond or stick to the brick. For this, you need only prepare a very thin wash made of water and type "S" hydrated lime powder. Thin the mixture until it is the consistency of whole milk. When you brush it on, it will be transparent but will dry bright white. Estimate how much water to lime; smaller ratio of salt if not using that much lime . This will make a mix that is harder and will last longer, but is not recommended for historic brick since salt could damage the masonry. If your brick is hard and nonporous, you may also need to brush on a thin coat of masonry bonding agent prior to applying limewash.

Wood is harder to limewash because wood expands and contracts in response to moisture and temperature, so it can cause the limewash to pop off. It is best if your wood is not treated and is rough-sawn rather than smooth. You may need to even out the porosity of the wood by applying a weak solution of the masonry bonding agent prior to limewashing. A simple recipe for wood is called acrylic bound limewash. Make the water and hydrated lime mixtures as above, but add 1 qt. bonding agent per gallon to the mix.

The surfaces must be clean prior to limewashing to remove mold, mildew and dirt. Make sure that the surface is dampened with a mist from the water hose prior to applying the limewash coats. Give each coat a day to dry and adhere before applying a second or third coat. Use a large brush and spread the limewash on quickly without trying to even it out. The drips can be smoothed down when you finish each section. Frequently stir the limewash to keep the particles suspended. Make sure to wear a dust mask when working with powdered lime to avoid breathing it in; wear eye protection, gloves, long sleeves and pants when limewashing. The lime is caustic and can burn your skin. For computing the amount of limewash you will need, measure the area you intend to cover. One gallon will cover about 200 sq. ft on wood and 180 sq. ft. on brick.

-Marcy Frantom, March 15, 2006